

**Case Report**
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## A Rare Presentation of AKI Due to Retroperitoneal Fibrosis as A Result of Gastric Linitis Plastica: A Case-Based Review

Anne-Marie Habib

Department of Nephrology at Hospital Center Cannes, France

**ABSTRACT**

Short bowel syndrome (SBS) refers to a condition resulting from loss of bowel or loss of small bowel absorptive surface area due to surgical resection or bypass leading to maldigestion, malabsorption and malnutrition. Management of SBS or intestinal failure usually requires home parenteral nutrition (HPN), however HPN carries an increased risk of complications and parenteral nutrition associated liver disease. We describe here the nutritional management leading to improvement in a case of Parenteral Nutrition induced liver disease post small bowel resection. The patient developed liver dysfunction as a result of nutritional management through parenteral route. Liver function improved after discontinuation of TPN, and patient improved by optimization of enteral nutrition and medical management.

**\*Corresponding author**

Anne-Marie Habib, Department of Nephrology at Hospital Center Cannes, France.

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**Introduction**

Retroperitoneal fibrosis (RPF), reviewed herein, is a rare fibroinflammatory disease that develops around the abdominal aorta and the iliac arteries, and spreads into the adjacent retroperitoneum, where it frequently causes ureteral obstruction and renal failure. Obstructive uropathy is the most common complication, although other types of renal involvement may occur. RPF can extend to the renal vascular peduncle; this may cause compression of renal veins and renal arteries.

Gastric linitis plastica is a diffuse type of cancer prone to the development of a unique clinical course, including the occurrence of RPF, with rapid progression. Delayed systemic treatment results in a poor outcome, and thus an appropriate and prompt clinical diagnosis is important.

We present a rare case of gastric linitis masquerading as retroperitoneal fibrosis, with AKI resulting from both obstruction and compression of the urinary system.

**Case Report**

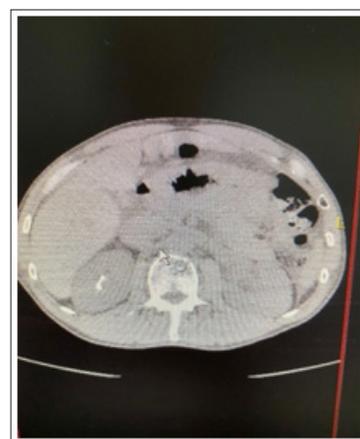
A 52-year-old Dutch man with no significant past medical history was admitted with acute renal failure, after a 4-months period of early satiety, epigastric pain and weight loss. He was prescribed Omeprazole and underwent an upper endoscopy which revealed thickened and oedematous gastric folds. Biopsies were not diagnostic. However, the pain became worst, spreading to the lumbar regions with no urinary symptoms. A blood test revealed impairment of the kidney function and a CT scan showed bilateral hydronephrosis with hydroureters and ascites. Bilateral JJ ureteral stents were placed. However, the kidney function continued to worsen, with a serum creatinine of 236  $\mu\text{mol/L}$  on admission (from 89  $\mu\text{mol/L}$ , 2 months earlier) to 855  $\mu\text{mol/L}$  3 days later.

The patient was becoming increasingly oliguric and was referred to the renal service [1].

Initial examination was unremarkable apart from bilateral costovertebral angle (CVA) tenderness. Urine dipstick was unremarkable [2].

A repeated scan was performed and revealed both stents in place with no evidence of hydronephrosis [3].

Positron emission tomography (PET) did not indicate abnormal accumulation of 18F-fluorodeoxyglucose apart for a moderate gastric fixation. 50 ml of yellow fluid was retrieved by abdominal paracentesis; this revealed an exudate with negative cytology.



CT scan showing Stents in place with no evidence of hydronephrosis Presence of ascites

At this point, it was decided to initiate glucocorticoid therapy intravenously. Within less than 24h, the patient's urine output started to increase and by the next day, the serum creatinine was already falling, to 277 micromoles/L 5 days later. The patient was discharged a week later on 60 mg of prednisolone per day [4].

A month later, an ultrasound-guided upper endoscopy with biopsy was performed; this had revealed a poorly differentiated adenocarcinoma cells consistent with linitis plastica. Abnormal cells were also found in the ascitic fluid when a second tap was performed.

### Discussion

Our patient had a rare presentation of gastric cancer in the form of both ureteral obstruction and compression of the kidneys due to inflammatory disease spreading into the adjacent retroperitoneum. The insertion of stents was not enough to improve the renal function despite alleviating the ureteral obstruction. In the present case, we could not determine a definitive diagnosis prior to initiating steroid treatment. We had considered malignant lymphoma or metastasis of malignant cancer as a differential diagnosis, but the images did not reveal any retroperitoneal nodular tumors. The presence of ascites could have suggested peritoneal carcinomatosis. We therapeutically diagnosed this case as primary retroperitoneal fibrosis. Since we could rapidly initiate treatment with steroid therapy, we were able to avoid dialysis.

In conclusion, one of the most important diagnostic challenges in RPF is the differentiation between primary and secondary diseases. As noted in this case, some forms of secondary RPF may be radiographically and histologically indistinguishable from idiopathic RPF.

A dilemma in the diagnosis and management of this disease may arise because even when negative biopsies are obtained, some cases of gastric cancer with RPF do not show masses on imaging.

### References

1. Amrouche L, Gornet JM, Lascoux C, George C, Florea L, et al. (2009) From retroperitoneal fibrosis to gastric linitis. *Rev Med Interne* 30: 443-445.
2. Karbasi A, Karbasi-Afshar R, Ahmadi J, Saburi A (2013) Retroperitoneal fibrosis as a result of signet ring cell gastric cancer: a case-based review. *J Gastrointest Cancer* 44: 94-97.
3. Peixoto RD, Al-Barrak J, Lim H, Renouf D (2013) Gastroesophageal cancer and retroperitoneal fibrosis: Two case reports and review of the literature. *World J Gastrointest Oncol* 5: 68-70.
4. Ryuta Watanabe, Akira Ozawa, Tokuhiko Iseda (2017) A case of retroperitoneal fibrosis responding to steroid therapy. *Int Braz J Urol* 43: 1185-1189.

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